

# **AVIATION FORECASTS AND AIRPORT DEVELOPMENT**

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# FORECAST GUIDANCE

- AC 150/5070-7, “The Airport System Planning Process,” paragraph 506 (1)
- AC 150/5070-6B, “Airport Master Plans,” Chapter 7 (1)
- FAA Order 5090.3C, “Field Formulation of the NPIAS,” Sections 2-7 and 3-2
- FAA Order 5100.38C, “AIP Handbook,” Chapter 4 (1)
- APO Report “Forecasting Aviation Activity by Airport”(2)
- ACRP Synthesis 2 Report “Airport Aviation Activity Forecasting” (3)
- (X)-denotes source document-see slide 18

# AIRPORT SPONSOR FORECASTS

- Airport sponsors generate aviation forecasts (local forecasts) for use in defining scope and timing of airport development

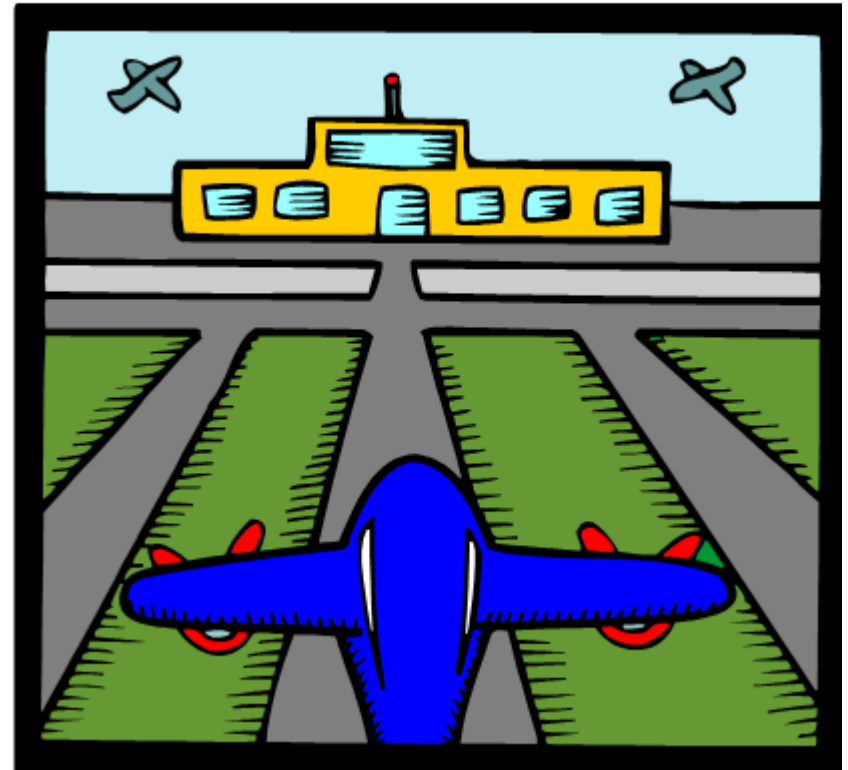


# WHY DOES FAA CARE ABOUT AIRPORT SPONSOR FORECASTS?

- FAA uses sponsor forecasts in its decision making, including:
  - Key environmental issues (determination of Purpose and Need, noise, air quality, and land use analyses in an EA or EIS)
  - Initial financial decisions including issuance of an LOI and calculation of a BCA
  - Noise compatibility planning (Part 150)

# USE OF SPECIFIC AIRPORT SPONSOR FORECASTS

- Terminal building design (including security): peak hour passengers
- Access facility design: passenger trips
- Airfield dimensions: critical aircraft



# AVIATION METROPOLITAN AND STATE SYSTEM PLAN FORECASTS

- Prepared by state DOT or MPO
- Broad forecasts of activity, fleet mix and surface vehicle trips
- Used to determine roles of airports including:
  - Business jet airports
  - LPV priorities



# WHAT MAKES A GOOD FORECAST?

- Good forecast:
  - Has accurate baseline data
  - Based on realistic assumptions
  - Uses appropriate methodologies
  - Specifies the information and analysis used



# BASELINE DATA

- Historic operations and enplanements
- Accurate baseline data is available for towered airports, air carrier enplanements and operations. Flights that file a flight plan (ETMS)
- TAF often “flat-lines” forecasts in cases of uncertain baseline data (usually 5010 reports)
- Baseline data can be improved through aircraft counting programs-AIP eligible
- ACRP Synthesis 4 Report: “Counting Aircraft Operations at Non-Towered Airports” (3)
- State DOT and MPO can do counting



# METHODOLOGIES/ ASSUMPTIONS

- Guidance on how to prepare an aviation forecast is contained in “Forecasting Aviation Activity by Airport,” July 2001.  
(2)

# PLANNING JUSTIFICATION FOR CRITICAL AIRCRAFT (4)

- Prefer airline/user support letters or contracts for new service, based aircraft or change in facility use (i.e. new flight school)
- Letters should specify the following and be signed by authorized official:
  - Current constraints (payload/stage)
  - Projected number of operations by aircraft
  - Stage length of projected operations
  - Date service is expected to start
  - Airfield and landside facilities needed

# TAF UPDATES AND EIS PLANNING DATA: COMMERCIAL OPERATIONS

1. TAF most detailed for top 50 airports, detailed for next 50 airports, and less rigorous for rest  
Sponsor forecast should be approved as close to start of EIS/EA as possible. Use current numbers and analysis, compare to latest published TAF
- Still, long term nature of environmental process can result in TAF/forecast inconsistency
- Planners for EIS projects should be alert to trends that may affect EIS/EA Purpose and Need. Advise the environmental team

# FAA REVIEW OF AIRPORT SPONSOR FORECASTS

- Forecast approval always rests with ADO/regional office
- Forecasts that require FAA HQ review (transmit to APP):
  - Those not consistent with the TAF (exception for some smaller airports)
  - Forecasts for projects that are expected to require an EIS or BCA, even if the forecast is consistent with the TAF



# WHAT DOES FAA LOOK FOR IN REVIEW OF SPONSOR FORECAST?

- Realistic planning assumptions
- Uses current data
- Appropriate forecast methodologies
- Report contains information and analysis used
- Forecasts are consistent with TAF



# CONSISTENCY OF SPONSOR FORECAST AND TAF

Forecasts consistent if they differ less than 10 percent in 5-year period and 15 percent in 10-year period

- Total operations
- Total enplanements
- Based aircraft



Skylink Train Station exterior November 2004

# MATERIAL NEEDED FOR FAA REVIEW OF AIRPORT SPONSOR FORECAST

- Side-by-side comparison: see templates (Appendices B and C) in “Forecasting Aviation Activity by Airport.”
- Enplanement, operations and based aircraft levels (baseline and trends)
- Assumptions (i.e. load factors, average seats, operations per based aircraft)
- Forecast methodologies (i.e. regression)

# SPECIFIC EXAMPLES



- Large cargo airport in Alaska
- Primary airport serving army base in Kansas
- Non-hub primary airport in Northeast
- Small hub primary airport in mid-atlantic



# USE OF TAF AS SPONSOR FORECAST

- FAA does not encourage sole use of TAF as the sponsor's forecast without recognition and understanding of its development. If used, the airport sponsor should:
  - Make a conscious decision to use TAF, and
  - Understand how TAF was developed for their airport, including assumptions, methods and calculations used, and
  - Document decision to use TAF, and the rationale, in the master plan

# SOURCES

- (1) FAA AIP order and advisory circulars:  
[www.faa.gov/airports\\_airtraffic/airports/aip/aip\\_handbook](http://www.faa.gov/airports_airtraffic/airports/aip/aip_handbook) and  
[www.faa.gov/airports\\_airtraffic/airports/resources/advisory\\_circulars](http://www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars)
- (2) Forecasting Aviation Activity by Airport-APO Report  
[http://www.faa.gov/data\\_statistics/aviation\\_data\\_statistics](http://www.faa.gov/data_statistics/aviation_data_statistics)
- (3) ACRP site: <http://pubsindex.trb.org/default.asp>
- (4) Planning Justification for Critical Aircraft: paragraph 505, FAA Order 5100.38C (see (1), above) and FAA internal guidance: “Planning Information Needed for FAA Headquarters Review of Benefit Cost Analysis”

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